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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/815,848 | 03/23/2001 | Charlotte Johansen | 4814.214-US | 5761 |

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| EXAMINER |
|---|
| PROUTY, REBECCA E |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1652 | |

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

| Application No. | Applicant(s) |
|---|---|
| 09/815,848 | Johansen |
| **Examiner** | **Art Unit** |
| Rebecca Prouty | 1652 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on *Apr 25, 2003*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above, claim(s) *7-9, 12-14, 16, 19, 21, and 23-30* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-6, 10, 11, 15, 17, 18, 20, and 22* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. *09/174,596*.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *1*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Applicant's election with traverse of Group I, Claims 1-22 and 27-30, syringate as species of enhancing agent and laundry as species of environment in Paper No. 6 is acknowledged. The traversal is on the ground(s) that there would be no additional burden of search for the coexamination of all claims. This is not found persuasive because while the search for the non-elected inventions would be overlapping with the search for the elected invention they would not be co-extensive as is shown by the different classification of each group. Furthermore, co-examination of each of the non-elected species of enhancing agents would require a substantial additional burden as each of the enhancing agents is structurally unrelated such that they would have to be searched independently and art teaching on would not necessarily teach or make obvious any of the others. Similarly, co-examination of each of the non-elected species of environments would require a substantial additional burden as each of the different environments has substantially different conditions which would influence the activity of the peroxidase differently.

The requirement is still deemed proper and is therefore made FINAL.

Claims 7-9, 12-14, 16, 19, 21, and 23-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn

to a nonelected invention (Claims 23-26) or species (Claims 7-9, 12-14, 16, 19, 21, and 27-30), there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

Claims 1-6, 10-11, 15, 17, 18, 20, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-6, 10-11,15, 17, 18, 20, and 22 are indefinite in the recitation of "an enhancing agent" as it is unclear what the scope of this term is. While the specification describes some compounds that increase the peroxidase activity of *Coprinus* peroxidase, the term is not defined to be limited to this activity, and thus it is unclear what the scope of the term includes.

Claims 1-6, 15, 17, 18, 20, and 22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

These claims are directed to a genus of methods of killing or inhibiting microorganisms using an antimicrobial composition comprising an enhancing agent and a peroxidase. The specification teaches the structural features defining several sub-genuses of such enhancing agents (i.e., those defined in Claims 8 and 10) and the structures of several specific species within these sub-genuses of such enhancing agents. However, the specification fails to describe any other representative species outside of these sub-genuses by any identifying characteristics or properties other than the functionality of being an "enhancing agent". Furthermore, the specification teaches only a single representative peroxidase useful in the methods as claimed and the specification fails to describe any other representative species of peroxidase by any identifying characteristics or properties other than the functionality of being a peroxidase. Given this lack of description of representative species encompassed by the genus of methods of the claims, the specification fails to sufficiently describe the claimed invention in such full, clear, concise, and exact terms that a skilled artisan would recognize that applicants were in possession of the claimed invention.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6, 10-11, 15, 17, 18, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (WO96/06532) in view of Schneider et al. (WO96/10079).

Johansen teaches methods of killing or inhibiting microorganisms present in laundry by using a detergent composition comprising a antimicrobial peptide in combination with an oxidoreductase (page 3), which is preferably a peroxidase enzyme system (Example 4), where a peroxidase enzyme system is a peroxidase in combination with hydrogen peroxide or a hydrogen peroxide generating system (page 7). Johansen does not specifically teach the use of an enhancer of the peroxidase nor the use of a *Coprinus cinereus* peroxidase as the peroxidase to use within the disclosed detergent compositions.

Schneider et al. teach detergent compositions (page 12) comprising a peroxidase, which is preferably a *Coprinus cinereus* peroxidase (page 6) , an enhancing agent, preferably those of Claims 10-11 and 22 (page 4), and hydrogen peroxide or a hydrogen peroxide generating system comprised of an oxidase and a substrate for the oxidase (such glucose oxidase/glucose, page 4). Schneider et al. teach that such compositions can be liquid or solid (page 12) and can also comprise additional typical components of detergent compositions such as builders (page 13), additional bleaching agents (page 13), fabric conditioners, (page 14), and suds suppressors (page 14). Schneider et al. do not specifically teach the use of antimicrobial additives within the detergent compositions disclosed.

It would have been obvious to one of ordinary skill in the art at the time of the invention that additional components of typical detergent compositions would be useful in the methods of Johansen. It would have been obvious to one of ordinary skill in the art to add the specific *Coprinus cinereus* peroxidase and enhancing agents disclosed by Schneider et al. to the compositions of Johansen as the detergent compositions of Johansen and Schneider et al. are substantially identical in that they each comprise standard detergent compounds such as

surfactants, a peroxidase and hydrogen peroxide or a hydrogen peroxide generating system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca Prouty, Ph.D. whose telephone number is (703) 308-4000. The examiner can normally be reached on Monday-Friday from 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy, can be reached at (703) 308-3804. The fax phone number for this Group is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Rebecca Prouty
Primary Examiner
Art Unit 1652